

## 1 Problem Statement & Dataset

Create a collection named "Employee" under the "EmployeeDB" database with each document in the format shown below Table 1.

Table 1: Document Format

Name	Age	Salary in INR	Designation	Role
{Firstname, middlename, lastname}	25-40	20000 - 75000	Employee Designation	[Manager, "Team Lead", "Software Developer", "Tester", "UI Designer"]
String BSON Object	int	Number	String	String Array

```
> use empbd
switched to db empbd
> db.createCollection("nams")
{ "ok" : 1 }
> show collections
nams
```

## 2 Queries

1. Populate the database with at least 15 documents.

```
> db.nams.find().pretty()

{
  "_id" : ObjectId("629875d6ab1f2779ce0709ee"),
  "firstname" : "Namratha",
  "middlename" : "Shree",
  "lastname" : "V",
  "age" : 26,
  "salary" : 50000,
  "designation" : "scientist",
  "role" : "tester"
}
{
  "_id" : ObjectId("629875d6ab1f2779ce0709ef"),
  "firstname" : "Sushma",
  "middlename" : "R",
  "lastname" : "Hegde",
  "age" : 27,
  "salary" : 55000,
  "designation" : "PA",
  "role" : "team lead"
}
{
  "_id" : ObjectId("629875d6ab1f2779ce0709f0"),
```

```

    "firstname" : "vedha",
    "middlename" : "Shree",
    "lastname" : "V",
    "age" : 28,
    "salary" : 60000,
    "designation" : "lead",
    "role" : "UI designer"
  }
  {
    "_id" : ObjectId("629875d6ab1f2779ce0709f1"),
    "firstname" : "Sam",
    "middlename" : "S",
    "lastname" : "Smith",
    "age" : 35,
    "salary" : 70000,
    "designation" : "associate",
    "role" : "manager"
  }
  {
    "_id" : ObjectId("62987814ab1f2779ce0709f2"),
    "firstname" : "Rajesh",
    "middlename" : "Kumar",
    "lastname" : "swamy",
    "age" : 32,
    "salary" : 32000,
    "designation" : "scientist",
    "role" : "tester"
  }
  {
    "_id" : ObjectId("62987814ab1f2779ce0709f3"),
    "firstname" : "Sriya",
    "middlename" : "Kumar",
    "lastname" : "H",
    "age" : 34,
    "salary" : 31000,
    "designation" : "PA",
    "role" : "team lead"
  }
  {
    "_id" : ObjectId("62987814ab1f2779ce0709f4"),
    "firstname" : "Vidya",
    "middlename" : "Kumar",
    "lastname" : "S",
    "age" : 28,
    "salary" : 60000,
    "designation" : "lead",
    "role" : "UI designer"
  }
  {
    "_id" : ObjectId("62987814ab1f2779ce0709f5"),
    "firstname" : "Samarth",
    "middlename" : "S",

```

```

    "lastname" : "H",
    "age" : 33,
    "salary" : 34000,
    "designation" : "teacher",
    "role" : "software developer"
  }
  {
    "_id" : ObjectId("62987964ab1f2779ce0709f6"),
    "firstname" : "Ram",
    "middlename" : "K",
    "lastname" : "Mukherjee",
    "age" : 28,
    "salary" : 22000,
    "designation" : "guide",
    "role" : "team lead"
  }
  {
    "_id" : ObjectId("62987964ab1f2779ce0709f7"),
    "firstname" : "Aruna",
    "middlename" : "Shree",
    "lastname" : "K",
    "age" : 34,
    "salary" : 21000,
    "designation" : "recruiter",
    "role" : "manager"
  }
  {
    "_id" : ObjectId("62987964ab1f2779ce0709f8"),
    "firstname" : "Vishwa",
    "middlename" : "Nath",
    "lastname" : "A",
    "age" : 28,
    "salary" : 27000,
    "designation" : "recruiter",
    "role" : "manager"
  }
  {
    "_id" : ObjectId("62987964ab1f2779ce0709f9"),
    "firstname" : "Swathi",
    "middlename" : "S",
    "lastname" : "Reddy",
    "age" : 28,
    "salary" : 34000,
    "designation" : "teacher",
    "role" : "software developer"
  }
  {
    "_id" : ObjectId("62987a97ab1f2779ce0709fa"),
    "firstname" : "Rajesh",
    "middlename" : "R",
    "lastname" : "Reddy",
    "age" : 39,

```

```

    "salary" : 55000,
    "designation" : "scientist",
    "role" : "tester"
  }
  {
    "_id" : ObjectId("62987a97ab1f2779ce0709fb"),
    "firstname" : "Ashwini",
    "middlename" : "R",
    "lastname" : "Shetty",
    "age" : 34,
    "salary" : 55650,
    "designation" : "PA",
    "role" : "team lead"
  }
  {
    "_id" : ObjectId("62987a97ab1f2779ce0709fc"),
    "firstname" : "Veera",
    "middlename" : "N",
    "lastname" : "Shetty",
    "age" : 31,
    "salary" : 55650,
    "designation" : "HR",
    "role" : "team lead"
  }
}

```

```

}
> db.nams.find().pretty()
{
  "_id" : ObjectId("629875d6ab1f2779ce0709ee"),
  "firstname" : "Namratha",
  "middlename" : "Shree",
  "lastname" : "V",
  "age" : 26,
  "salary" : 50000,
  "designation" : "scientist",
  "role" : "tester"
}
{
  "_id" : ObjectId("629875d6ab1f2779ce0709ef"),
  "firstname" : "Sushma",
  "middlename" : "R",
  "lastname" : "Hegde",
  "age" : 27,
  "salary" : 55000,
  "designation" : "PA",
  "role" : "team lead"
}
{
  "_id" : ObjectId("629875d6ab1f2779ce0709f0"),
  "firstname" : "vedha",
  "middlename" : "Shree",
  "lastname" : "V",
  "age" : 28,
  "salary" : 60000,
  "designation" : "lead",
  "role" : "UI designer"
}
{
  "_id" : ObjectId("629875d6ab1f2779ce0709f1"),
  "firstname" : "Sam",

```

```

}
{
  "_id" : ObjectId("629875d6ab1f2779ce0709f1"),
  "firstname" : "Sam",
  "middlename" : "S",
  "lastname" : "Smith",
  "age" : 35,
  "salary" : 70000,
  "designation" : "associate",
  "role" : "manager"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f2"),
  "firstname" : "Rajesh",
  "middlename" : "Kumar",
  "lastname" : "swamy",
  "age" : 32,
  "salary" : 32000,
  "designation" : "scientist",
  "role" : "tester"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f3"),
  "firstname" : "Sriya",
  "middlename" : "Kumar",
  "lastname" : "H",
  "age" : 34,
  "salary" : 31000,
  "designation" : "PA",
  "role" : "team lead"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f4"),
  "firstname" : "Vidya",
  "middlename" : "Kumar",
  "lastname" : "S",

```

```

{
  "_id" : ObjectId("62987964ab1f2779ce0709f6"),
  "firstname" : "Ram",
  "middlename" : "K",
  "lastname" : "Mukherjee",
  "age" : 28,
  "salary" : 22000,
  "designation" : "guide",
  "role" : "team lead"
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f7"),
  "firstname" : "Aruna",
  "middlename" : "Shree",
  "lastname" : "K",
  "age" : 34,
  "salary" : 21000,
  "designation" : "recruiter",
  "role" : "manager"
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f8"),
  "firstname" : "Vishwa",
  "middlename" : "Nath",
  "lastname" : "A",
  "age" : 28,
  "salary" : 27000,
  "designation" : "recruiter",
  "role" : "manager"
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f9"),
  "firstname" : "Swathi",
  "middlename" : "S",
  "lastname" : "Reddy",
  "age" : 28,
  "salary" : 34000,
  "designation" : "teacher",
  "role" : "software developer"
}

```

```

    "salary" : 31000,
    "designation" : "PA",
    "role" : "team lead"
  }
  {
    "_id" : ObjectId("62987814ab1f2779ce0709f4"),
    "firstname" : "Vidya",
    "middlename" : "Kumar",
    "lastname" : "S",
    "age" : 28,
    "salary" : 60000,
    "designation" : "lead",
    "role" : "UI designer"
  }
  {
    "_id" : ObjectId("62987814ab1f2779ce0709f5"),
    "firstname" : "Samarth",
    "middlename" : "S",
    "lastname" : "H",
    "age" : 33,
    "salary" : 34000,
    "designation" : "teacher",
    "role" : "software developer"
  }
  {
    "_id" : ObjectId("62987964ab1f2779ce0709f6"),
    "firstname" : "Ram",
    "middlename" : "K",
    "lastname" : "Mukherjee",
    "age" : 28,
    "salary" : 22000,
    "designation" : "guide",
    "role" : "team lead"
  }
  {
    "_id" : ObjectId("62987964ab1f2779ce0709f7"),
    "firstname" : "Aruna",
    "middlename" : "Shree",
    "lastname" : "K"
  }

```

```

    "middlename" : "Nath",
    "lastname" : "A",
    "age" : 28,
    "salary" : 27000,
    "designation" : "recruiter",
    "role" : "manager"
  }
  {
    "_id" : ObjectId("62987964ab1f2779ce0709f9"),
    "firstname" : "Swathi",
    "middlename" : "S",
    "lastname" : "Reddy",
    "age" : 28,
    "salary" : 34000,
    "designation" : "teacher",
    "role" : "software developer"
  }
  {
    "_id" : ObjectId("62987a97ab1f2779ce0709fa"),
    "firstname" : "Rajesh",
    "middlename" : "R",
    "lastname" : "Reddy",
    "age" : 39,
    "salary" : 55000,
    "designation" : "scientist",
    "role" : "tester"
  }
  {
    "_id" : ObjectId("62987a97ab1f2779ce0709fb"),
    "firstname" : "Ashwini",
    "middlename" : "R",
    "lastname" : "Shetty",
    "age" : 34,
    "salary" : 55650,
    "designation" : "PA",
    "role" : "team lead"
  }
  {
    "_id" : ObjectId("62987a97ab1f2779ce0709fc"),
    "firstname" : "Veera",
    "middlename" : "N",
    "lastname" : "Shetty",
    "age" : 31,
    "salary" : 55650,
    "designation" : "HR",
    "role" : "team lead"
  }

```

```

  {
    "_id" : ObjectId("62987a97ab1f2779ce0709fb"),
    "firstname" : "Ashwini",
    "middlename" : "R",
    "lastname" : "Shetty",
    "age" : 34,
    "salary" : 55650,
    "designation" : "PA",
    "role" : "team lead"
  }
  {
    "_id" : ObjectId("62987a97ab1f2779ce0709fc"),
    "firstname" : "Veera",
    "middlename" : "N",
    "lastname" : "Shetty",
    "age" : 31,
    "salary" : 55650,
    "designation" : "HR",
    "role" : "team lead"
  }
}

```

2. List all the records having salary in the range of 20000 - 35000(Exclusive).

```
> db.nams.find({"salary":{"$gt:20000,$lt:35000"}}).pretty()
```

```
{
  "_id" : ObjectId("62987814ab1f2779ce0709f2"),
  "firstname" : "Rajesh",
  "middlename" : "Kumar",
  "lastname" : "swamy",
  "age" : 32,
  "salary" : 32000,
  "designation" : "scientist",
  "role" : "tester"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f3"),
  "firstname" : "Sriya",
  "middlename" : "Kumar",
  "lastname" : "H",
  "age" : 34,
  "salary" : 31000,
  "designation" : "PA",
  "role" : "team lead"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f5"),
  "firstname" : "Samarth",
  "middlename" : "S",
  "lastname" : "H",
  "age" : 33,
  "salary" : 34000,
  "designation" : "teacher",
  "role" : "software developer"
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f6"),
  "firstname" : "Ram",
  "middlename" : "K",
  "lastname" : "Mukherjee",
  "age" : 28,
  "salary" : 22000,
  "designation" : "guide",
  "role" : "team lead"
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f7"),
  "firstname" : "Aruna",
  "middlename" : "Shree",
  "lastname" : "K",
  "age" : 34,
  "salary" : 21000,
```

```

    "designation" : "recruiter",
    "role" : "manager"
  }
  {
    "_id" : ObjectId("62987964ab1f2779ce0709f8"),
    "firstname" : "Vishwa",
    "middlename" : "Nath",
    "lastname" : "A",
    "age" : 28,
    "salary" : 27000,
    "designation" : "recruiter",
    "role" : "manager"
  }
  {
    "_id" : ObjectId("62987964ab1f2779ce0709f9"),
    "firstname" : "Swathi",
    "middlename" : "S",
    "lastname" : "Reddy",
    "age" : 28,
    "salary" : 34000,
    "designation" : "teacher",
    "role" : "software developer"
  }
}

```

```

}
> db.nams.find({"salary":{$gt:20000,$lt:35000}}).pretty()
{
  "_id" : ObjectId("62987814ab1f2779ce0709f2"),
  "firstname" : "Rajesh",
  "middlename" : "Kumar",
  "lastname" : "swamy",
  "age" : 32,
  "salary" : 32000,
  "designation" : "scientist",
  "role" : "tester"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f3"),
  "firstname" : "Sriya",
  "middlename" : "Kumar",
  "lastname" : "H",
  "age" : 34,
  "salary" : 31000,
  "designation" : "PA",
  "role" : "team lead"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f5"),
  "firstname" : "Samarth",
  "middlename" : "S",
  "lastname" : "H",
  "age" : 33,
  "salary" : 34000,
  "designation" : "teacher",
  "role" : "software developer"
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f6"),
  "firstname" : "Ram",
  "middlename" : "K",
  "lastname" : "Mukherjee",
  "age" : 28
}

```



```

      "lastname" : "n",
      "age" : 33,
      "salary" : 34000,
      "designation" : "teacher",
      "role" : "software developer"
    }
  ]
}

{
  "_id" : ObjectId("62987964ab1f2779ce0709f6"),
  "firstname" : "Ram",
  "middlename" : "K",
  "lastname" : "Mukherjee",
  "age" : 28,
  "salary" : 22000,
  "designation" : "guide",
  "role" : "team lead"
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f7"),
  "firstname" : "Aruna",
  "middlename" : "Shree",
  "lastname" : "K",
  "age" : 34,
  "salary" : 21000,
  "designation" : "recruiter",
  "role" : "manager"
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f8"),
  "firstname" : "Vishwa",
  "middlename" : "Nath",
  "lastname" : "A",
  "age" : 28,
  "salary" : 27000,
  "designation" : "recruiter",
  "role" : "manager"
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f9"),
  "firstname" : "Swathi",

```

```

      "middlename" : "K",
      "lastname" : "Mukherjee",
      "age" : 28,
      "salary" : 22000,
      "designation" : "guide",
      "role" : "team lead"
    }
  ]
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f7"),
  "firstname" : "Aruna",
  "middlename" : "Shree",
  "lastname" : "K",
  "age" : 34,
  "salary" : 21000,
  "designation" : "recruiter",
  "role" : "manager"
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f8"),
  "firstname" : "Vishwa",
  "middlename" : "Nath",
  "lastname" : "A",
  "age" : 28,
  "salary" : 27000,
  "designation" : "recruiter",
  "role" : "manager"
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f9"),
  "firstname" : "Swathi",
  "middlename" : "S",
  "lastname" : "Reddy",
  "age" : 28,
  "salary" : 34000,
  "designation" : "teacher",
  "role" : "software developer"
}
>

```

3. List all the Employee whose Middle name is "Kumar".

```
> db.nams.find({"middlename":"Kumar"}).pretty()
```

```

{
  "_id" : ObjectId("62987814ab1f2779ce0709f2"),
  "firstname" : "Rajesh",
  "middlename" : "Kumar",

```

```

      "lastname" : "swamy",
      "age" : 32,
      "salary" : 32000,
      "designation" : "scientist",
      "role" : "tester"
    }
  }
  {
    "_id" : ObjectId("62987814ab1f2779ce0709f3"),
    "firstname" : "Sriya",
    "middlename" : "Kumar",
    "lastname" : "H",
    "age" : 34,
    "salary" : 31000,
    "designation" : "PA",
    "role" : "team lead"
  }
  {
    "_id" : ObjectId("62987814ab1f2779ce0709f4"),
    "firstname" : "Vidya",
    "middlename" : "Kumar",
    "lastname" : "S",
    "age" : 28,
    "salary" : 60000,
    "designation" : "lead",
    "role" : "UI designer"
  }
}

```

```

> db.nams.find({"middlename":"Kumar"}).pretty()
{
  "_id" : ObjectId("62987814ab1f2779ce0709f2"),
  "firstname" : "Rajesh",
  "middlename" : "Kumar",
  "lastname" : "swamy",
  "age" : 32,
  "salary" : 32000,
  "designation" : "scientist",
  "role" : "tester"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f3"),
  "firstname" : "Sriya",
  "middlename" : "Kumar",
  "lastname" : "H",
  "age" : 34,
  "salary" : 31000,
  "designation" : "PA",
  "role" : "team lead"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f4"),
  "firstname" : "Vidya",
  "middlename" : "Kumar",
  "lastname" : "S",
  "age" : 28,
  "salary" : 60000,
  "designation" : "lead",
  "role" : "UI designer"
}

```

4. Count the number of Employees who has a role "Manager" in the Role field.

```

> db.nams.find({"role":"manager"}).count()
3

```

```

}
> db.nams.find({"role":"manager"}).count()
3

```

5. Find out all the documents who have age < 35 and salary in the range of 30000-35000.

```
>db.nams.find({$and:[{salary:{$gt:30000}}, {salary:{$lt:35000}}, {age:{$lt:35}}]}).pretty()
```

```

{
  "_id" : ObjectId("62987814ab1f2779ce0709f2"),
  "firstname" : "Rajesh",
  "middlename" : "Kumar",
  "lastname" : "swamy",
  "age" : 32,
  "salary" : 32000,
  "designation" : "scientist",
  "role" : "tester"
}

```

```

{
  "_id" : ObjectId("62987814ab1f2779ce0709f3"),
  "firstname" : "Sriya",
  "middlename" : "Kumar",
  "lastname" : "H",
  "age" : 34,
  "salary" : 31000,
  "designation" : "PA",
  "role" : "team lead"
}

```

```

{
  "_id" : ObjectId("62987814ab1f2779ce0709f5"),
  "firstname" : "Samarth",
  "middlename" : "S",
  "lastname" : "H",
  "age" : 33,
  "salary" : 34000,
  "designation" : "teacher",
  "role" : "software developer"
}

```

```

{
  "_id" : ObjectId("62987964ab1f2779ce0709f9"),
  "firstname" : "Swathi",
  "middlename" : "S",
  "lastname" : "Reddy",
  "age" : 28,
  "salary" : 34000,
  "designation" : "teacher",
  "role" : "software developer"
}

```

```
}
```

```
> db.nams.find({$and:[{salary:{$gt:30000}},{salary:{$lt:35000}},{age:{$lt:35}}]}).pretty()
{
  "_id" : ObjectId("62987814ab1f2779ce0709f2"),
  "firstname" : "Rajesh",
  "middlename" : "Kumar",
  "lastname" : "swamy",
  "age" : 32,
  "salary" : 32000,
  "designation" : "scientist",
  "role" : "tester"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f3"),
  "firstname" : "Sriya",
  "middlename" : "Kumar",
  "lastname" : "H",
  "age" : 34,
  "salary" : 31000,
  "designation" : "PA",
  "role" : "team lead"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f5"),
  "firstname" : "Samarth",
  "middlename" : "S",
  "lastname" : "H",
  "age" : 33,
  "salary" : 34000,
  "designation" : "teacher",
  "role" : "software developer"
}
```

```

  "middlename" : "Kumar",
  "lastname" : "swamy",
  "age" : 32,
  "salary" : 32000,
  "designation" : "scientist",
  "role" : "tester"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f3"),
  "firstname" : "Sriya",
  "middlename" : "Kumar",
  "lastname" : "H",
  "age" : 34,
  "salary" : 31000,
  "designation" : "PA",
  "role" : "team lead"
}
{
  "_id" : ObjectId("62987814ab1f2779ce0709f5"),
  "firstname" : "Samarth",
  "middlename" : "S",
  "lastname" : "H",
  "age" : 33,
  "salary" : 34000,
  "designation" : "teacher",
  "role" : "software developer"
}
{
  "_id" : ObjectId("62987964ab1f2779ce0709f9"),
  "firstname" : "Swathi",
  "middlename" : "S",
  "lastname" : "Reddy",
  "age" : 28,
  "salary" : 34000,
  "designation" : "teacher",
  "role" : "software developer"
}
> □
```

6. Delete an Employee whose "Firstname" is "Rajesh" and having the designation as "Scientist".

```
> db.nams.deleteOne({$and:[{firstname:"Rajesh"},{designation:"scientist"}]})
{ "acknowledged" : true, "deletedCount" : 1 }
> db.nams.find()
```

```
{ "_id" : ObjectId("629875d6ab1f2779ce0709ee"), "firstname" : "Namratha", "middlename" :
"Shree", "lastname" : "V", "age" : 26, "salary" : 50000, "designation" : "scientist", "role" : "tester" }
{ "_id" : ObjectId("629875d6ab1f2779ce0709ef"), "firstname" : "Sushma", "middlename" : "R",
"lastname" : "Hegde", "age" : 27, "salary" : 55000, "designation" : "PA", "role" : "team lead" }
```

```

{ "_id" : ObjectId("629875d6ab1f2779ce0709f0"), "firstname" : "vedha", "middlename" : "Shree",
"lastname" : "V", "age" : 28, "salary" : 60000, "designation" : "lead", "role" : "UI designer" }
{ "_id" : ObjectId("629875d6ab1f2779ce0709f1"), "firstname" : "Sam", "middlename" : "S",
"lastname" : "Smith", "age" : 35, "salary" : 70000, "designation" : "associate", "role" : "manager" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f3"), "firstname" : "Sriya", "middlename" : "Kumar",
"lastname" : "H", "age" : 34, "salary" : 31000, "designation" : "PA", "role" : "team lead" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f4"), "firstname" : "Vidya", "middlename" : "Kumar",
"lastname" : "S", "age" : 28, "salary" : 60000, "designation" : "lead", "role" : "UI designer" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f5"), "firstname" : "Samarth", "middlename" : "S",
"lastname" : "H", "age" : 33, "salary" : 34000, "designation" : "teacher", "role" : "software
developer" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f6"), "firstname" : "Ram", "middlename" : "K",
"lastname" : "Mukherjee", "age" : 28, "salary" : 22000, "designation" : "guide", "role" : "team
lead" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f7"), "firstname" : "Aruna", "middlename" : "Shree",
"lastname" : "K", "age" : 34, "salary" : 21000, "designation" : "recruiter", "role" : "manager" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f8"), "firstname" : "Vishwa", "middlename" : "Nath",
"lastname" : "A", "age" : 28, "salary" : 27000, "designation" : "recruiter", "role" : "manager" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f9"), "firstname" : "Swathi", "middlename" : "S",
"lastname" : "Reddy", "age" : 28, "salary" : 34000, "designation" : "teacher", "role" : "software
developer" }
{ "_id" : ObjectId("62987a97ab1f2779ce0709fb"), "firstname" : "Ashwini", "middlename" : "R",
"lastname" : "Shetty", "age" : 34, "salary" : 55650, "designation" : "PA", "role" : "team lead" }
{ "_id" : ObjectId("62987a97ab1f2779ce0709fc"), "firstname" : "Veera", "middlename" : "N",
"lastname" : "Shetty", "age" : 31, "salary" : 55650, "designation" : "HR", "role" : "team lead" }

```

```

> db.nams.deleteOne({$and:[{firstname:"Rajesh"},{designation:"scientist"}]})
{ "acknowledged" : true, "deletedCount" : 1 }
> db.nams.find()
{ "_id" : ObjectId("629875d6ab1f2779ce0709ee"), "firstname" : "Namratha", "middlename" : "Shree", "lastname" : "V", "age" : 26, "salary" : 50000,
"designation" : "scientist", "role" : "tester" }
{ "_id" : ObjectId("629875d6ab1f2779ce0709ef"), "firstname" : "Sushma", "middlename" : "R", "lastname" : "Hegde", "age" : 27, "salary" : 55000, "d
esignation" : "PA", "role" : "team lead" }
{ "_id" : ObjectId("629875d6ab1f2779ce0709f0"), "firstname" : "vedha", "middlename" : "Shree", "lastname" : "V", "age" : 28, "salary" : 60000, "d
esignation" : "lead", "role" : "UI designer" }
{ "_id" : ObjectId("629875d6ab1f2779ce0709f1"), "firstname" : "Sam", "middlename" : "S", "lastname" : "Smith", "age" : 35, "salary" : 70000, "des
ignation" : "associate", "role" : "manager" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f3"), "firstname" : "Sriya", "middlename" : "Kumar", "lastname" : "H", "age" : 34, "salary" : 31000, "d
esignation" : "PA", "role" : "team lead" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f4"), "firstname" : "Vidya", "middlename" : "Kumar", "lastname" : "S", "age" : 28, "salary" : 60000, "d
esignation" : "lead", "role" : "UI designer" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f5"), "firstname" : "Samarth", "middlename" : "S", "lastname" : "H", "age" : 33, "salary" : 34000, "des
ignation" : "teacher", "role" : "software developer" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f6"), "firstname" : "Ram", "middlename" : "K", "lastname" : "Mukherjee", "age" : 28, "salary" : 22000,
"designation" : "guide", "role" : "team lead" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f7"), "firstname" : "Aruna", "middlename" : "Shree", "lastname" : "K", "age" : 34, "salary" : 21000, "d
esignation" : "recruiter", "role" : "manager" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f8"), "firstname" : "Vishwa", "middlename" : "Nath", "lastname" : "A", "age" : 28, "salary" : 27000, "d
esignation" : "recruiter", "role" : "manager" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f9"), "firstname" : "Swathi", "middlename" : "S", "lastname" : "Reddy", "age" : 28, "salary" : 34000, "
designation" : "teacher", "role" : "software developer" }
{ "_id" : ObjectId("62987a97ab1f2779ce0709fb"), "firstname" : "Ashwini", "middlename" : "R", "lastname" : "Shetty", "age" : 34, "salary" : 55650,
"designation" : "PA", "role" : "team lead" }
{ "_id" : ObjectId("62987a97ab1f2779ce0709fc"), "firstname" : "Veera", "middlename" : "N", "lastname" : "Shetty", "age" : 31, "salary" : 55650, "
designation" : "HR", "role" : "team lead" }
>

```

7. Update all the Employees whose role is "Team Lead" with a salary of 55650 INR.

```

> db.nams.updateMany({"role":"team lead"},{$set:{"salary":55650}})
{ "acknowledged" : true, "matchedCount" : 5, "modifiedCount" : 3 }
> db.nams.find()

```



```

{ "_id" : ObjectId("629875d6ab1f2779ce0709ee"), "firstname" : "Namratha", "middlename" :
"Shree", "lastname" : "V", "age" : 26, "salary" : 50000, "designation" : "scientist", "role" : "tester" }
{ "_id" : ObjectId("629875d6ab1f2779ce0709ef"), "firstname" : "Sushma", "middlename" : "R",
"lastname" : "Hegde", "age" : 27, "salary" : 55650, "designation" : "PA", "role" : "team lead" }
{ "_id" : ObjectId("629875d6ab1f2779ce0709f0"), "firstname" : "vedha", "middlename" : "Shree",
"lastname" : "V", "age" : 28, "salary" : 60000, "designation" : "lead", "role" : "UI designer" }
{ "_id" : ObjectId("629875d6ab1f2779ce0709f1"), "firstname" : "Sam", "middlename" : "S",
"lastname" : "Smith", "age" : 35, "salary" : 70000, "designation" : "associate", "role" : "manager" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f3"), "firstname" : "Sriya", "middlename" : "Kumar",
"lastname" : "H", "age" : 34, "salary" : 55650, "designation" : "PA", "role" : "team lead" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f4"), "firstname" : "Vidya", "middlename" : "Kumar",
"lastname" : "S", "age" : 28, "salary" : 60000, "designation" : "lead", "role" : "UI designer" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f5"), "firstname" : "Samarth", "middlename" : "S",
"lastname" : "H", "age" : 33, "salary" : 34000, "designation" : "teacher", "role" : "software
developer" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f6"), "firstname" : "Ram", "middlename" : "K",
"lastname" : "Mukherjee", "age" : 28, "salary" : 55650, "designation" : "guide", "role" : "team
lead" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f7"), "firstname" : "Aruna", "middlename" : "Shree",
"lastname" : "K", "age" : 34, "salary" : 21000, "designation" : "recruiter", "role" : "manager" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f8"), "firstname" : "Vishwa", "middlename" : "Nath",
"lastname" : "A", "age" : 28, "salary" : 27000, "designation" : "recruiter", "role" : "manager" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f9"), "firstname" : "Swathi", "middlename" : "S",
"lastname" : "Reddy", "age" : 28, "salary" : 34000, "designation" : "teacher", "role" : "software
developer" }
{ "_id" : ObjectId("62987a97ab1f2779ce0709fb"), "firstname" : "Ashwini", "middlename" : "R",
"lastname" : "Shetty", "age" : 34, "salary" : 55650, "designation" : "PA", "role" : "team lead" }
{ "_id" : ObjectId("62987a97ab1f2779ce0709fc"), "firstname" : "Veera", "middlename" : "N",
"lastname" : "Shetty", "age" : 31, "salary" : 55650, "designation" : "HR", "role" : "team lead" }

```

```

> db.nams.updateMany({"role":"team lead"},{$set:{salary:55650}})
{ "acknowledged" : true, "matchedCount" : 5, "modifiedCount" : 3 }
> db.nams.find()
{ "_id" : ObjectId("629875d6ab1f2779ce0709ee"), "firstname" : "Namratha", "middlename" : "Shree", "lastname" : "V", "age" : 26, "salary" : 50000,
"designation" : "scientist", "role" : "tester" }
{ "_id" : ObjectId("629875d6ab1f2779ce0709ef"), "firstname" : "Sushma", "middlename" : "R", "lastname" : "Hegde", "age" : 27, "salary" : 55650, "d
esignation" : "PA", "role" : "team lead" }
{ "_id" : ObjectId("629875d6ab1f2779ce0709f0"), "firstname" : "vedha", "middlename" : "Shree", "lastname" : "V", "age" : 28, "salary" : 60000, "d
esignation" : "lead", "role" : "UI designer" }
{ "_id" : ObjectId("629875d6ab1f2779ce0709f1"), "firstname" : "Sam", "middlename" : "S", "lastname" : "Smith", "age" : 35, "salary" : 70000, "des
ignation" : "associate", "role" : "manager" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f3"), "firstname" : "Sriya", "middlename" : "Kumar", "lastname" : "H", "age" : 34, "salary" : 55650, "d
esignation" : "PA", "role" : "team lead" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f4"), "firstname" : "Vidya", "middlename" : "Kumar", "lastname" : "S", "age" : 28, "salary" : 60000, "d
esignation" : "lead", "role" : "UI designer" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f5"), "firstname" : "Samarth", "middlename" : "S", "lastname" : "H", "age" : 33, "salary" : 34000, "des
ignation" : "teacher", "role" : "software developer" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f6"), "firstname" : "Ram", "middlename" : "K", "lastname" : "Mukherjee", "age" : 28, "salary" : 55650,
"designation" : "guide", "role" : "team lead" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f7"), "firstname" : "Aruna", "middlename" : "Shree", "lastname" : "K", "age" : 34, "salary" : 21000, "d
esignation" : "recruiter", "role" : "manager" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f8"), "firstname" : "Vishwa", "middlename" : "Nath", "lastname" : "A", "age" : 28, "salary" : 27000, "d
esignation" : "recruiter", "role" : "manager" }
{ "_id" : ObjectId("62987964ab1f2779ce0709f9"), "firstname" : "Swathi", "middlename" : "S", "lastname" : "Reddy", "age" : 28, "salary" : 34000, "
designation" : "teacher", "role" : "software developer" }
{ "_id" : ObjectId("62987a97ab1f2779ce0709fb"), "firstname" : "Ashwini", "middlename" : "R", "lastname" : "Shetty", "age" : 34, "salary" : 55650,
"designation" : "PA", "role" : "team lead" }
{ "_id" : ObjectId("62987a97ab1f2779ce0709fc"), "firstname" : "Veera", "middlename" : "N", "lastname" : "Shetty", "age" : 31, "salary" : 55650, "
designation" : "HR", "role" : "team lead" }
>

```

8. Group all the Employees by their age(common age should be there) and calculate the average salary obtained in each group.

```
> db.nams.aggregate([{$group: {_id: "$age", Average: {$avg: "$salary"}}}])
```

```
{ "_id" : 35, "Average" : 70000 }
{ "_id" : 26, "Average" : 50000 }
{ "_id" : 34, "Average" : 44100 }
{ "_id" : 27, "Average" : 55650 }
{ "_id" : 33, "Average" : 34000 }
{ "_id" : 31, "Average" : 55650 }
{ "_id" : 28, "Average" : 47330 }
```

```
> db.nams.aggregate([{$group: {_id: "$age", Average: {$avg: "$salary"}}}])
{ "_id" : 35, "Average" : 70000 }
{ "_id" : 26, "Average" : 50000 }
{ "_id" : 34, "Average" : 44100 }
{ "_id" : 27, "Average" : 55650 }
{ "_id" : 33, "Average" : 34000 }
{ "_id" : 31, "Average" : 55650 }
{ "_id" : 28, "Average" : 47330 }
> □
```

9. Apply the map-reduce to perform the above operation and obtain the results.

```
> var mapfunction=function(){emit(this.age,this.salary)}
> var reducefunction=function(key,values){return Array.avg(values)}
> db.nams.mapReduce(mapfunction,reducefunction,{out:'result'})
{ "result" : "result", "ok" : 1 }
> db.result.find()
```

```
{ "_id" : 35, "value" : 70000 }
{ "_id" : 28, "value" : 47330 }
{ "_id" : 34, "value" : 44100 }
{ "_id" : 33, "value" : 34000 }
{ "_id" : 27, "value" : 55650 }
{ "_id" : 31, "value" : 55650 }
{ "_id" : 26, "value" : 50000 }
```

```
> var mapfunction=function(){emit(this.age,this.salary)}
> var reducefunction=function(key,values){return Array.avg(values)}
> db.nams.mapReduce(mapfunction,reducefunction,{out:'result'})
{ "result" : "result", "ok" : 1 }
```

```
> db.result.find()
{ "_id" : 35, "value" : 70000 }
{ "_id" : 28, "value" : 47330 }
{ "_id" : 34, "value" : 44100 }
{ "_id" : 33, "value" : 34000 }
{ "_id" : 27, "value" : 55650 }
{ "_id" : 31, "value" : 55650 }
{ "_id" : 26, "value" : 50000 }
> □
```